

Patent Claims:

1. Method for assisting an operator of a vehicle in the vehicle stabilization, wherein an additional steering torque is applied to the steering line of the vehicle, characterized in that a first component of the additional steering torque is determined depending on a steering angle difference between an instantaneous steering angle at steerable wheels of the vehicle and a nominal steering angle, and the steering angle difference is determined depending on a difference between an instantaneous value of a yaw rate of the vehicle and a value of a reference yaw rate, and with the value of the reference yaw rate being established in a vehicle model by way of a value of at least one variable predefined by the driver.
2. Method as claimed in claim 1, characterized in that the reference yaw rate is established depending on a steering angle set by the operator of a vehicle.
3. Method as claimed in any one of claims 1 and 2, characterized in that the additional steering torque is withdrawn when the absolute value of the instantaneous yaw rate of the vehicle irrespective of the sign drops below a value of the reference yaw rate which is established at the time of start of an unstable driving situation.

4. Method as claimed in any one of the preceding claims, characterized in that the steering angle deviation is determined depending on a difference between the instantaneous yaw rate of the vehicle and the value of the reference yaw rate which is established at the time of start of an unstable driving situation.
5. Method as claimed in any one of the preceding claims, characterized in that the point of time of the start of an unstable driving situation is determined by activation logic.
6. Method as claimed in any one of the preceding claims, characterized in that the activation logic has access to results of a driving situation detection unit in order to detect the start of an unstable driving situation.
7. Method as claimed in any one of the preceding claims, characterized in that a second component of the additional steering torque is determined depending on an estimated value of a tire resetting moment.
8. Method as claimed in any one of the preceding claims, characterized in that the tire resetting moment is preferably estimated by a disturbance observer unit.
9. Method as claimed in any one of the preceding claims,

characterized in that the additional steering torque is established by addition of the first and the second component.

10. Method as claimed in any one of the preceding claims, characterized in that the amount of the additional steering torque is limited.
11. Device for assisting an operator of a vehicle in stabilizing a vehicle, comprising a means for adjusting an additional steering torque by way of an additional steering torque signal, characterized in that a means for determining a reference yaw rate transmits a reference yaw rate signal to a steering angle controller which determines a first additional steering torque signal depending on a difference between the reference yaw rate signal and a measured yaw rate signal.
12. Device as claimed in claim 11, characterized in that it includes at least one controllable memory means for storing a value of the reference yaw rate signal which is transmitted from the means for determining the reference yaw rate to the memory means.
13. Device as claimed in any one of claims 11 and 12, characterized in that the memory means is driven by an activation means.
14. Device as claimed in any one of claims 11 to 13,

characterized in that the activation means can be operated in at least two operating conditions, and the memory means is actuated in a transition from a first into a second operating condition.

15. Device as claimed in any one of claims 11 to 14, characterized in that a transition from the first operating condition of the activation means into the second operating condition is controlled by a means for detecting an unstable driving situation.
16. Device as claimed in any one of claims 11 to 15, characterized in that a transition from the second operating condition of the activation means into the first operating condition is controlled by a means of comparison for comparing a value of the reference yaw rate signal stored in the memory means with a measured value of the yaw rate of the vehicle.
17. Device as claimed in any one of claims 11 to 16, characterized in that the memory means transmits the stored value of the reference yaw rate to the steering angle controller.
18. Device as claimed in any one of claims 11 to 17, characterized in that it comprises a disturbance observer unit for estimating a tire resetting moment.
19. Device as claimed in any one of claims 11 to 15,

characterized in that it comprises a means for determining a second additional steering torque signal by way of the estimated tire resetting moment.

20. Device as claimed in any one of claims 11 to 19, characterized in that it comprises an adder for establishing an additional steering torque from the first and the second additional steering torque signals.
21. Device as claimed in any one of claims 11 to 20, characterized in that the means for adjusting the additional steering torque concerns a servo motor of an electric power steering system.
22. Device as claimed in any one of claims 11 to 21, characterized in that the means for adjusting the additional steering torque concerns a hydraulic power steering system.
23. Device as claimed in any one of claims 11 to 22, characterized in that the means for adjusting the additional steering torque concerns a steer-by-wire steering system.